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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,147	03/10/2004	Gary Peter Moscaluk	CYP-0403	4329
25007	7590	05/25/2006	EXAMINER	
LAW OFFICE OF DALE B. HALLING, LLC			NGUYEN, HIEP	
655 SOUTHPOINTE COURT, SUITE 100				
COLORADO SPRINGS, CO 80906			ART UNIT	PAPER NUMBER
			2816	

DATE MAILED: 05/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/797,147	MOSCALUK ET AL.
	Examiner Hiep Nguyen	Art Unit 2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 21 March 2006.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-3 and 6-13 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-3 and 6-13 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 28 July 2004 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

## DETAILED ACTION

This is responsive to the amendment filed on 03-21-06. Applicant's arguments with respect to the admitted prior and reference Fung (US. 5,107,465) and Chang (US. 6,870,413) have been carefully considered but they are not deemed to be persuasive to overcome the reference. Thus, the claims remain rejected under admitted prior and reference Fung and Chang. The rejection changes slightly for clarification.

### *Claim Objections*

Claims 1 and 9 are objected to because of the following informalities: the recitation "a reference generating circuit" is misdescriptive because it is only a latch circuit having an inverter coupled to the input. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 12 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Correction and/or clarification is required.

Regarding claim 12, the recitation "wherein the cross coupled latch latches on an input signal having a voltage that is less than a transistor threshold" is indefinite because it is not clear what is the "a voltage that is less than a transistor threshold" is meant by. Clear explanation is required.

Claim 13 is indefinite because of the technical deficiencies of claim 12.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having

ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fung et al. (USP. 5,107,465) in view of Chang et al. (USP. 6,870,413).

Regarding claim 1, figure 1 of Fung shows a transmission amplification circuit comprising:

- a transmission gate (21);
- a cross-coupled latch (23, 24);

a reference generating circuit (25, 26, 27) coupled to the cross coupled latch through a second transmission gate (22). The reference generating circuit includes a latch and an inverter. Figure 1 of Fung does not show that the inverter (27) is a Schmitt trigger device. Figure 1 of Chang shows a Schmitt trigger inverter for improving the signal transition and enhance noise immunity. Therefore, it would have been obvious for one having ordinary skill in the art to replace the inverter (27) of Fung with the Schmitt trigger inverter taught by Chang for improving the signal transition and enhance noise immunity.

Regarding claim 2, the strobe signal is signal is signal (CK).

Regarding claim 6-8, figure 1 of Fung shows the second transmission gate (22). The input signal is a single ended input. The transmission gate (21) is coupled to a transmission line.

Regarding claims 9 and 10, figure 1 of Fung shows a transmission amplification circuit comprising:

- a transmission gate (21);
- a cross-coupled latch (23, 24);
- a second transmission gate (22);

a reference generating circuit (25, 26, 27) coupled to the cross coupled latch through a second transmission gate (22). The reference generating circuit includes a latch and an inverter. Figure 1 of Fung does not show that the inverter (27) is a Schmitt trigger device. Figure 1 of Chang shows a Schmitt trigger inverter for improving the signal transition and enhance noise immunity (col. 3, lines 55-65). Therefore, it would have been obvious for one

having ordinary skill in the art to replace the inverter (27) of Fung with the Schmitt trigger inverter taught by Chang for improving the signal transition and enhance noise immunity.

Regarding claim 11, the transmission gate is coupled to a strobe signal (CK) and an inverted strobe signal (CK/).

Regarding claim 12, when the input signal has a voltage that is less than the threshold voltage of the PMOS transistor inherently included in the inverter (23) of the latch (23, 24), the PMOS transistor is turned on and the input signal is latched.

Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukushi et al. (USP. 6,836,426) in view of Fung et al. (5,107,465) and Chang et al. (USP. 6,870,413).

Regarding claim 3 and 13 figure 8 of Fukushi shows a circuit (6) comprising first and second transmission gates and a cross-coupled latch. Circuit (6) is coupled to a reference generating circuit (2, 3, 4, 5). Figure 8 of Fukushi does not show that the reference generating circuit (2, 3, 4, 5) comprises a latch coupled to a Schmitt trigger. The combination of Fung (reference generating circuit 25, 26, 27) and Chang (Schmitt inverter of figure 1) shows a reference generating circuit having a capability of improving the signal transition and enhance noise immunity. Therefore, it would have been obvious for one having ordinary skill in the art to replace the reference generating circuit of Fukushi with the combination of Fung and Chang for improving the signal transition and enhance noise immunity. Figure 8 of Fukushi shows that the strobe signal (the output of NAND gate 9) is coupled to the cross coupled latch.

#### *Response to Arguments*

In the Remarks the Applicant argues that the Applicant argues that the circuit (25, 26, 27) is clearly not a “reference generating circuit”. Claim 1 merely recites a “reference generating circuit” including a latch and a Schmitt inverter. Figure 1 of the present application shows a “reference generating circuit” comprising a latch (86) coupled to a Schmitt inverter (84). The output signal of the latch is not a fixed voltage (a reference signal). In fact, the output signal of a latch can be at high level or low level depending on the polarities of the input signal. Therefore, it is misdescriptive to recite that circuit (16) is a “reference generating

“circuit”. Similarly the combination of Fung and Chang comprises a “reference generating circuit” including a latch coupled to a Schmitt trigger thus; the circuit of claim 1 reads on the combination of Fung and Chang.

*Conclusion*

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hiep Nguyen whose telephone number is (571) 272-1752. The examiner can normally be reached on Monday to Friday from 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Timothy Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hiep Nguyen

05-20-06



TUANT.LAM  
PRIMARY EXAMINER